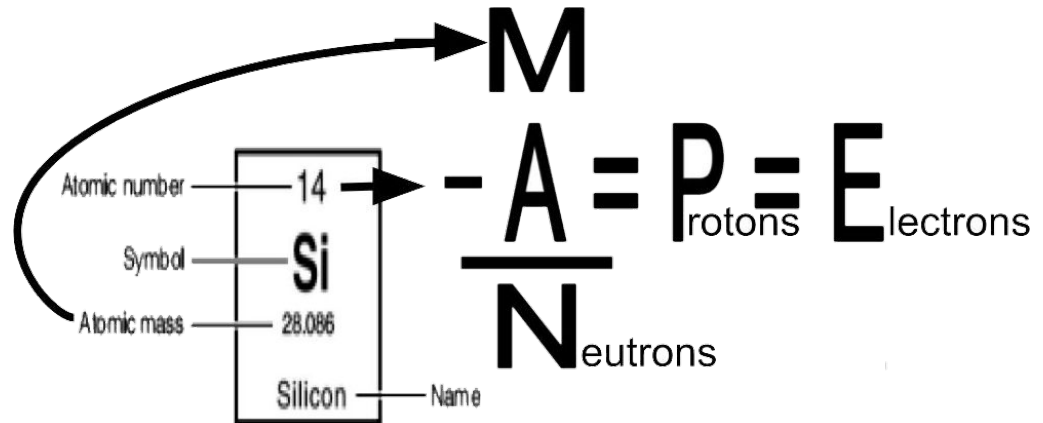


A. P. E. M. A. N.

Atomic # = Protons = Electrons

Mass # - Atomic # = Neutrons

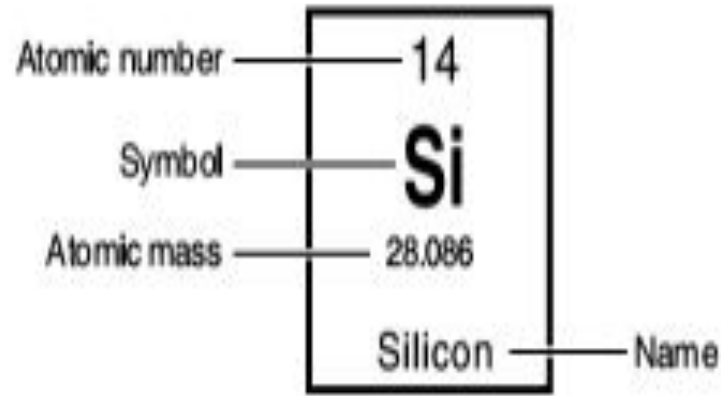


Locate the “key” on periodic table

STAAR GRADE 8 SCIENCE REFERENCE MATERIALS

PERIODIC TABLE OF THE ELEMENTS

1 1A 1 H 1.008 Hydrogen	2 2A 2 He 4.003 Helium											13 3A 13 B 10.811 Boron	14 4A 14 C 12.011 Carbon	15 5A 15 N 14.007 Nitrogen	16 6A 16 O 15.999 Oxygen	17 7A 17 F 18.998 Fluorine	18 8A 18 Ne 20.180 Neon												
3 Li 6.941 Lithium	4 Be 9.012 Beryllium											19 9A 19 K 39.098 Potassium	20 10A 20 Ca 40.078 Calcium	3 3B 21 Sc 44.956 Scandium	4 4B 22 Ti 47.867 Titanium	5 5B 23 V 50.942 Vanadium	6 6B 24 Cr 51.996 Chromium	7 7B 25 Mn 54.938 Manganese	8 8 26 Fe 55.845 Iron	9 9 27 Co 58.933 Cobalt	10 10 28 Ni 58.693 Nickel	11 11B 29 Cu 63.546 Copper	12 2B 30 Zn 65.38 Zinc	31 3A 31 Al 26.982 Aluminum	32 4A 32 Si 28.086 Silicon	33 5A 33 P 30.974 Phosphorus	34 6A 34 S 32.06 Sulfur	35 7A 35 Cl 35.45 Chlorine	36 8A 36 Ar 39.948 Argon
5 5 37 Rb 85.468 Rubidium	55 Sr 87.62 Strontium	56 Y 88.906 Yttrium	40 40 41 Zr 91.224 Zirconium	42 42 43 Nb 92.906 Niobium	44 44 45 Mo 95.94 Molybdenum	46 46 47 Tc 98 Technetium	48 48 49 Ru 101.07 Ruthenium	50 50 51 Rh 102.91 Rhodium	52 52 53 Pd 106.42 Palladium	47 47 48 Ag 107.868 Silver	49 49 50 Cd 112.411 Cadmium	51 51 52 In 114.818 Indium	53 53 54 Sn 118.710 Tin	54 54 55 Sb 121.757 Antimony	56 56 57 Te 127.6 Tellurium	58 58 59 I 126.905 Iodine	59 59 60 Xe 131.29 Xenon												
58 58 59 Cs 132.905 Cesium	56 56 57 Ba 137.327 Barium	71 71 72 Lu 174.967 Lutetium	72 72 73 Hf 178.49 Hafnium	74 74 75 Ta 180.948 Tantalum	76 76 77 W 183.84 Tungsten	78 78 79 Re 186.207 Rhenium	80 80 81 Os 190.23 Osmium	82 82 83 Ir 192.222 Iridium	84 84 85 Pt 195.084 Platinum	86 86 87 Au 196.967 Gold	88 88 89 Hg 200.59 Mercury	90 90 91 Tl 204.38 Thallium	92 92 93 Pb 207.2 Lead	94 94 95 Bi 208.98 Bismuth	96 96 97 Po 209 Polonium	98 98 99 At 210 Astatine	99 99 100 Rn 222 Radon												
67 67 68 Fr 223 Francium	83 83 84 Ra 226 Radium	103 103 104 Lr 260 Lawrencium	104 104 105 Rf 261 Rutherfordium	106 106 107 Db 262 Dubnium	108 108 109 Sg 263 Seaborgium	110 110 111 Bh 264 Bohrium	112 112 113 Hs 265 Hassium	114 114 115 Mt 266 Meitnerium	116 116 117 Ds 268 Darmstadtium	118 118 119 Rg 269 Roentgenium	Mass numbers in parentheses are those of the most stable or most common isotope.																		



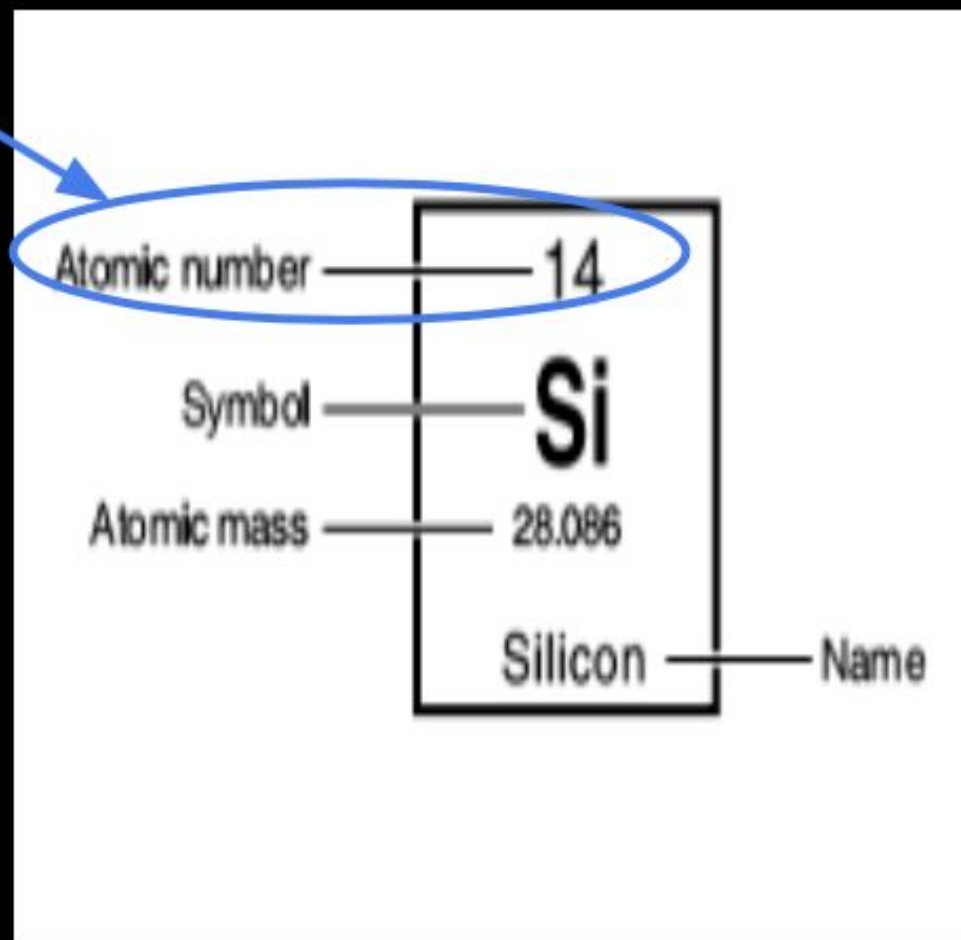
Lanthanide Series

57 La 138.905 Lanthanum	58 Ce 140.12 Cerium	59 Pr 140.908 Praseodymium	60 Nd 144.242 Neodymium	61 Pm 145 Promethium	62 Sm 150.36 Samarium	63 Eu 151.964 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.925 Terbium	66 Dy 162.502 Dysprosium	67 Ho 164.930 Holmium	68 Er 167.256 Erbium	69 Tm 168.9304 Thulium	70 Yb 173.054 Ytterbium
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Actinide Series

89 Ac 227 Actinium	90 Th 232.038 Thorium	91 Pa 231.036 Protactinium	92 U 238.02891 Uranium	93 Np 237 Neptunium	94 Pu 244 Plutonium	95 Am 243 Americium	96 Cm 247 Curium	97 Bk 247 Berkelium	98 Cf 251 Californium	99 Es 252 Einsteinium	100 Fm 257 Fermium	101 Md 258 Mendelevium	102 No 259 Nobelium
-----------------------------	--------------------------------	-------------------------------------	---------------------------------	------------------------------	------------------------------	------------------------------	---------------------------	------------------------------	--------------------------------	--------------------------------	-----------------------------	---------------------------------	------------------------------

Atomic#



The diagram shows a rectangular box representing an element's information. On the left side of the box, there are four labels: "Atomic number", "Symbol", "Atomic mass", and "Silicon". On the right side, there are four corresponding values: "14", "Si", "28.086", and "Name". A blue oval highlights the "Atomic number" label and the value "14". A blue arrow points from the "Atomic#" text in the top left corner to the "Atomic number" label.

Atomic number	14
Symbol	Si
Atomic mass	28.086
Silicon	Name

Mass

Atomic number

14

Symbol

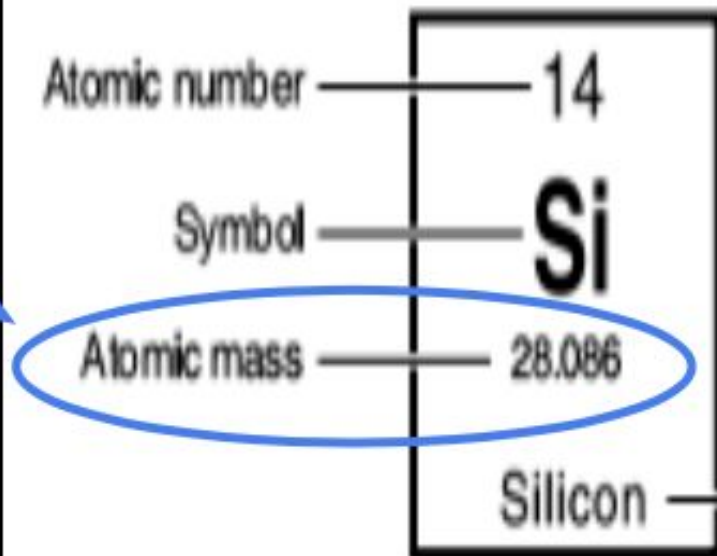
Si

Atomic mass

28.086

Silicon

Name



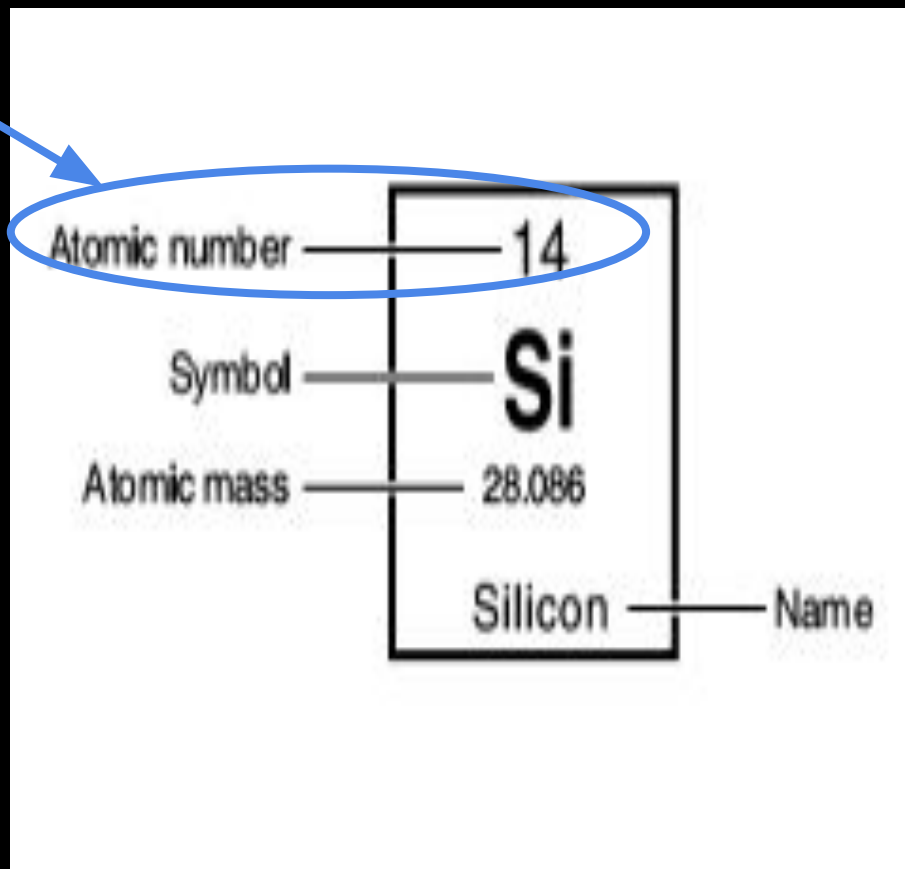
Atomic#

=

#**P**rotons

=

#**E**lectrons



The diagram shows a rectangular box representing an element's information. The box is divided into four horizontal sections. The top section contains the atomic number '14'. The second section contains the chemical symbol 'Si'. The third section contains the atomic mass '28.086'. The bottom section contains the element name 'Silicon'. To the left of the box, labels 'Atomic number', 'Symbol', and 'Atomic mass' are connected to their respective values by horizontal lines. To the right of the box, the label 'Name' is connected to 'Silicon' by a horizontal line. A blue oval highlights the '14' in the top section, and a blue arrow points from the 'A' in 'Atomic#' on the left towards this oval.

Atomic number	14
Symbol	Si
Atomic mass	28.086
	Silicon
	Name

M

~~A = P = E~~

~~N~~

N

Protons(+)



+

Neutrons(0)

= Atomic Mass

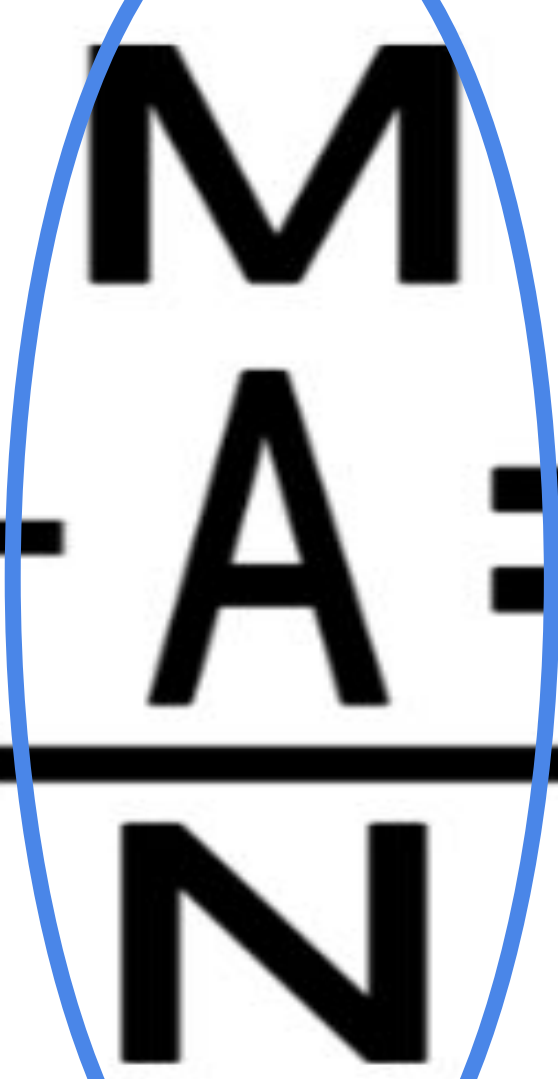
Atomic number	14
Symbol	Si
Atomic mass	28.086
	Silicon
	Name

Mass

- Atomic#

Neutrons

Atomic number	14
Symbol	Si
Atomic mass	28.086
Silicon	
	Name

$$\frac{M}{A} = P = E$$


If the number in the tenths place
(behind the decimal) is **5 or greater**,
round up!

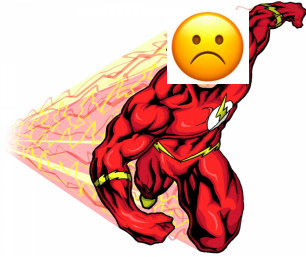
$$22.\underline{3}02 = ?$$

$$50.\underline{6}84 = ?$$

$$10.\underline{5}13 = ?$$

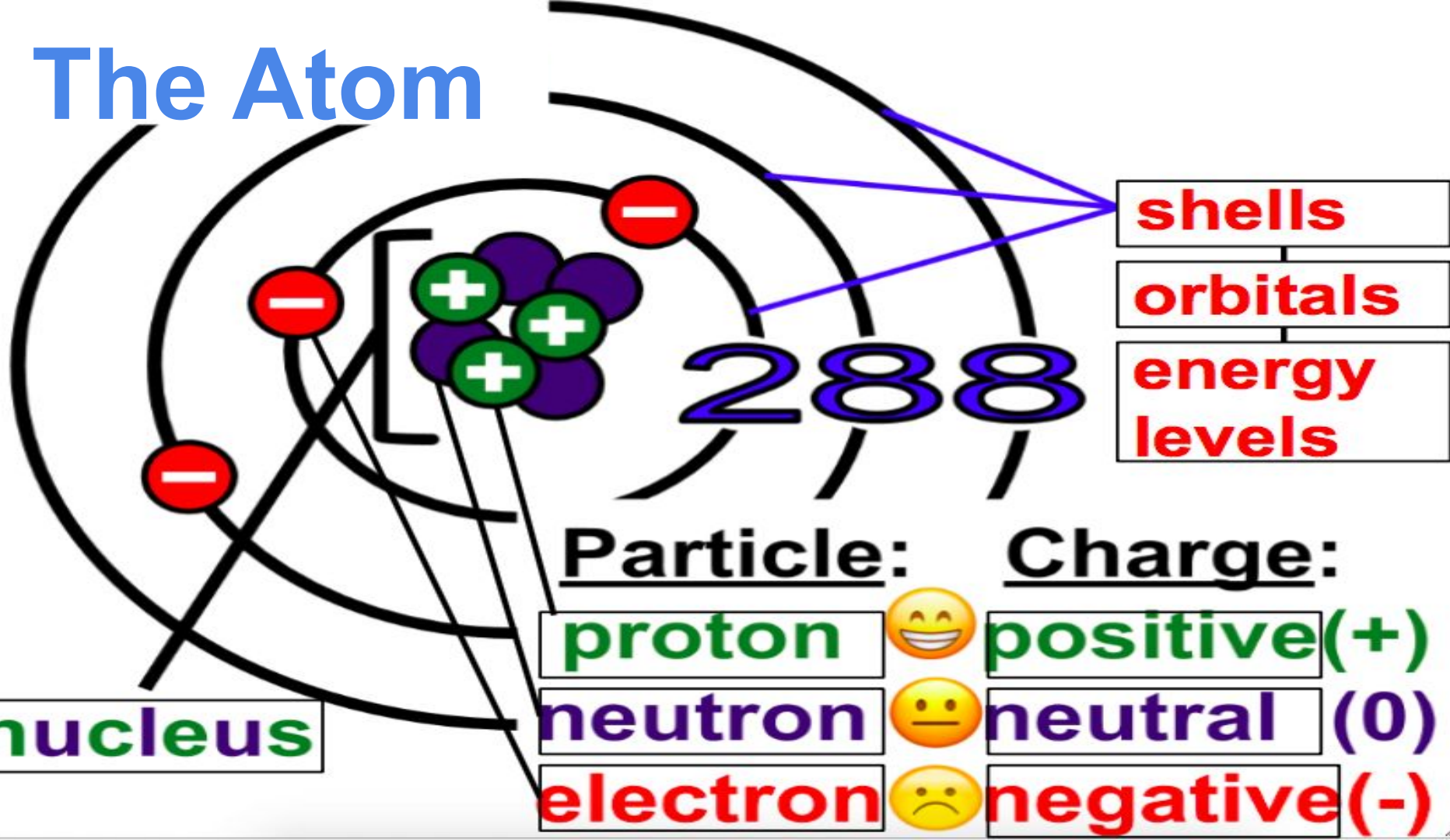
$$11.\underline{2}10 = ?$$

Electron Cloud



-made of levels known as
shells, orbitals, or energy
levels

The Atom



shells

orbitals

energy levels

288

nucleus

proton



positive(+)

neutron

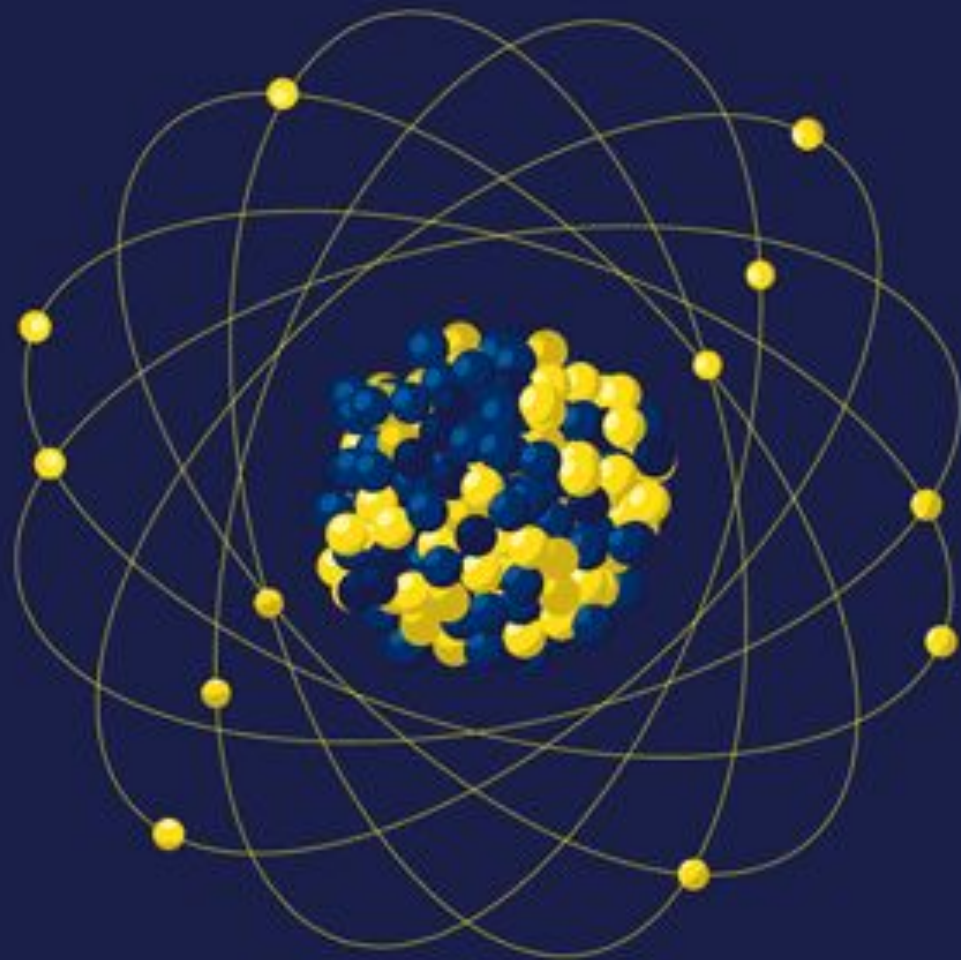


neutral (0)

electron

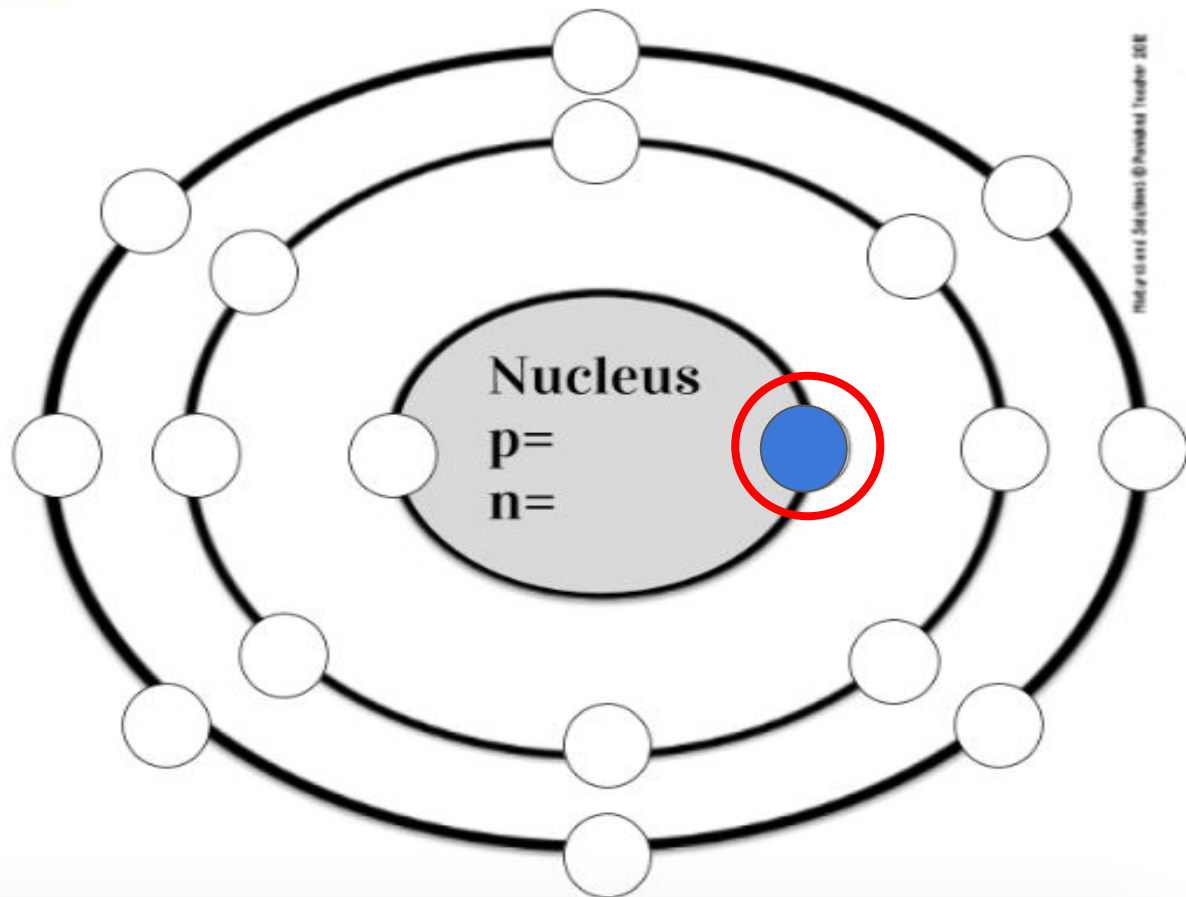


negative(-)



The Atom

Element: _____



Hydrogen
1
H
1.0078

Atomic #:

Atomic Mass:

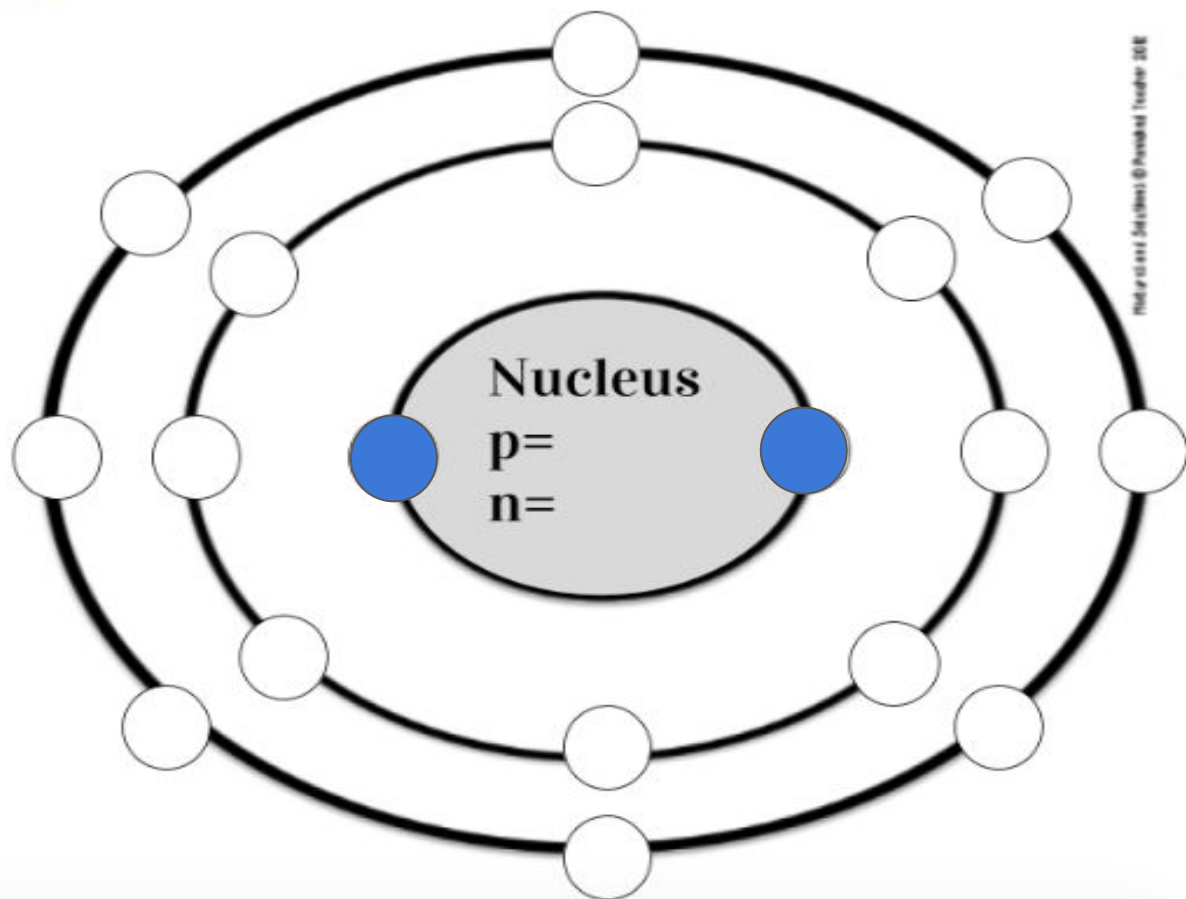
Protons (+)

Electrons (-)

Neutrons (0)

The Atom

Element: _____



Helium
2
He
4.0026

Atomic #:

Atomic Mass:

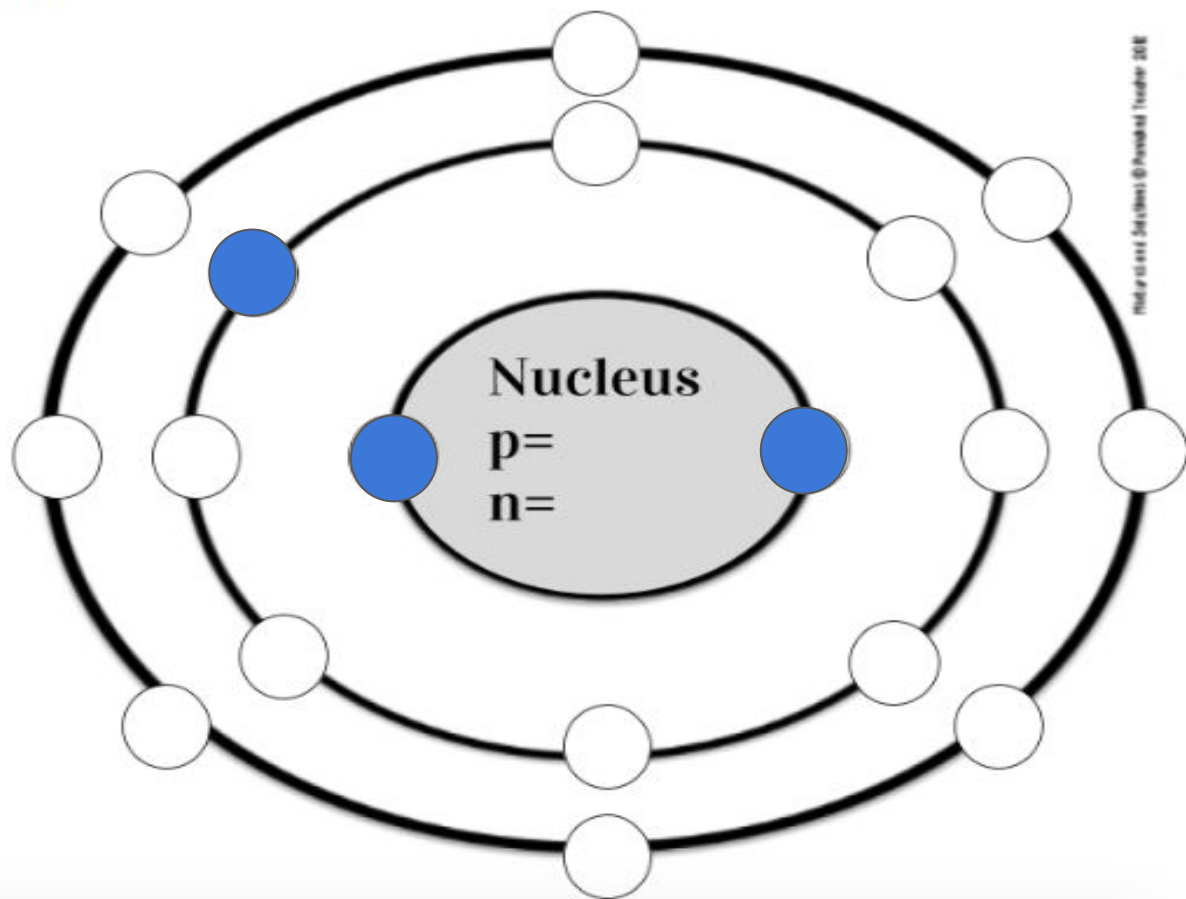
Protons (+)

Electrons (-)

Neutrons (0)

The Atom

Element: _____



Lithium
3

Li

6.941

Atomic #:

Atomic Mass:

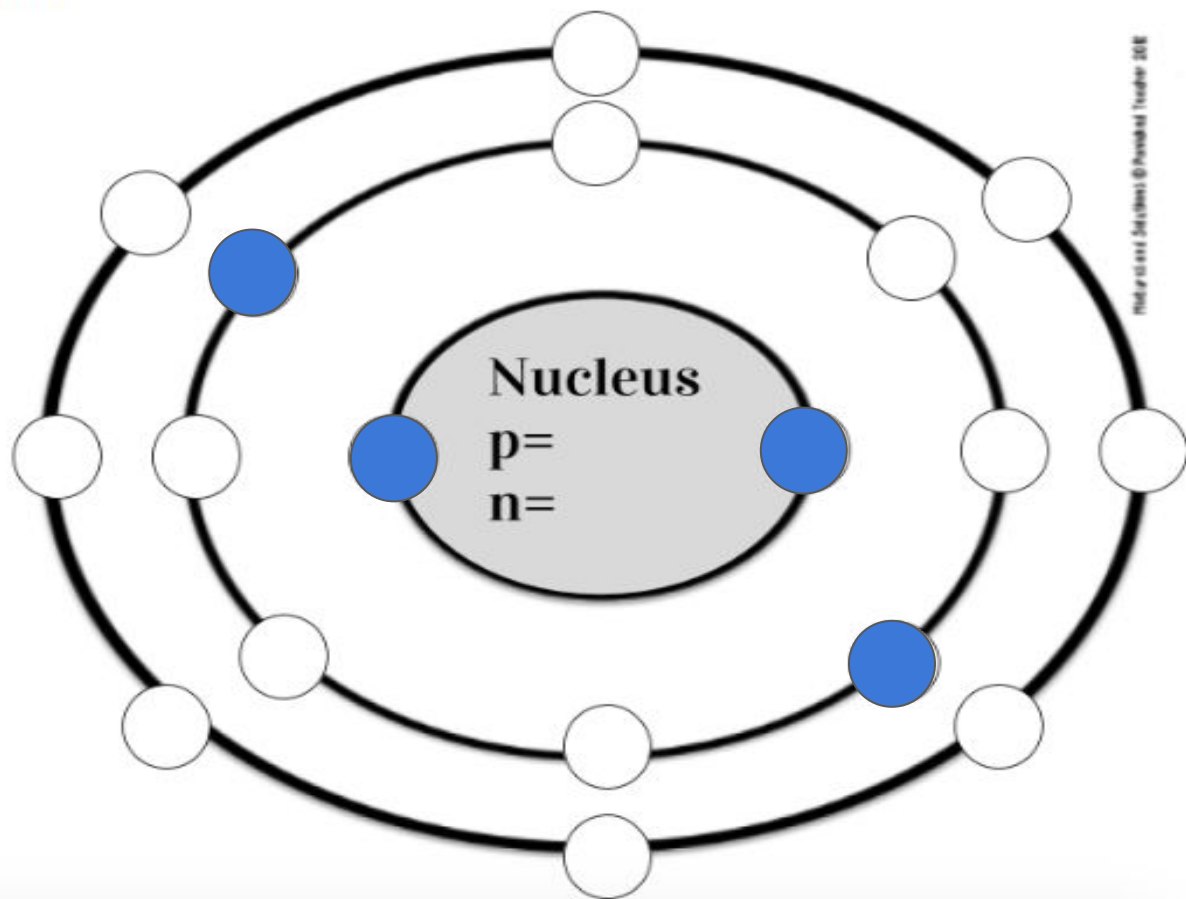
Protons (+)

Electrons (-)

Neutrons (0)

The Atom

Element: _____



Beryllium
4
Be
9.0122

Atomic #:

Atomic Mass:

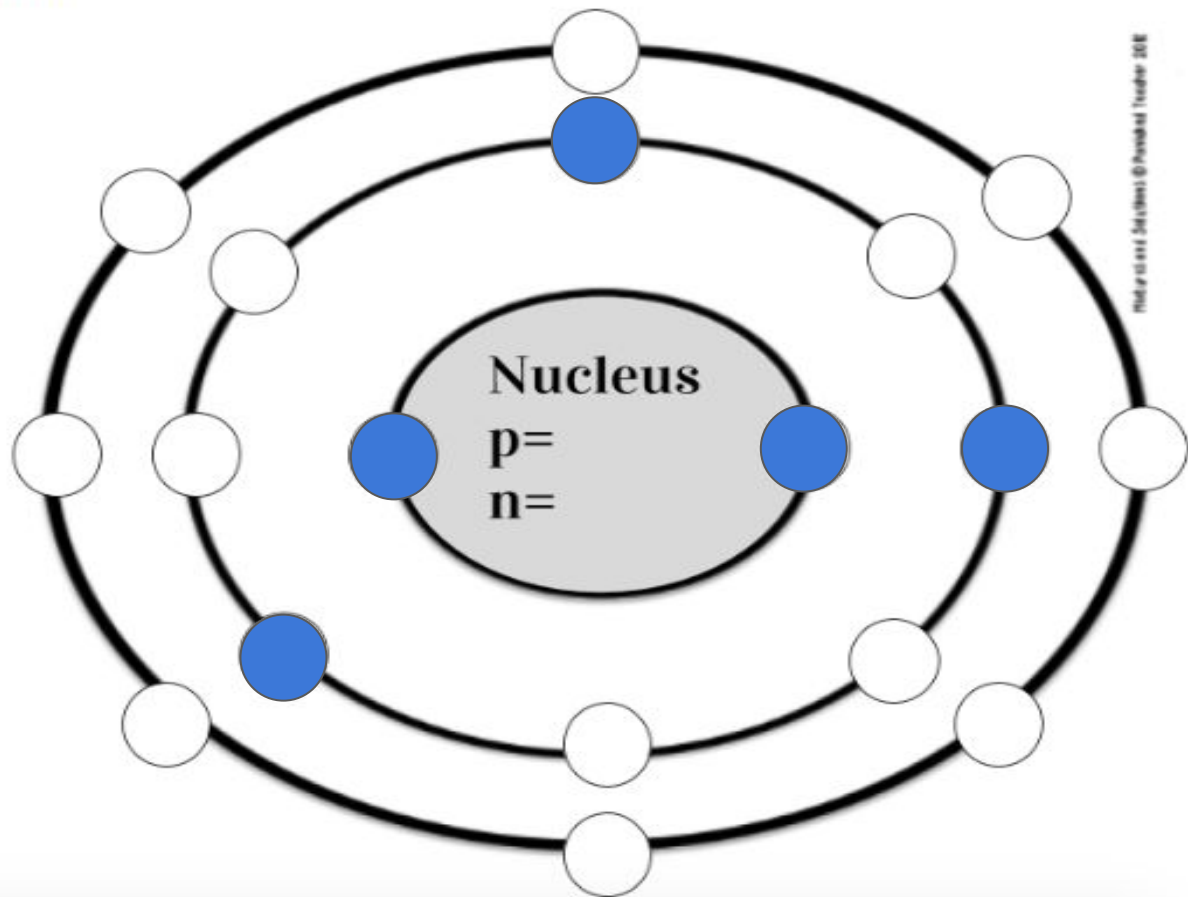
Protons (+)

Electrons (-)

Neutrons (0)

The Atom

Element: _____

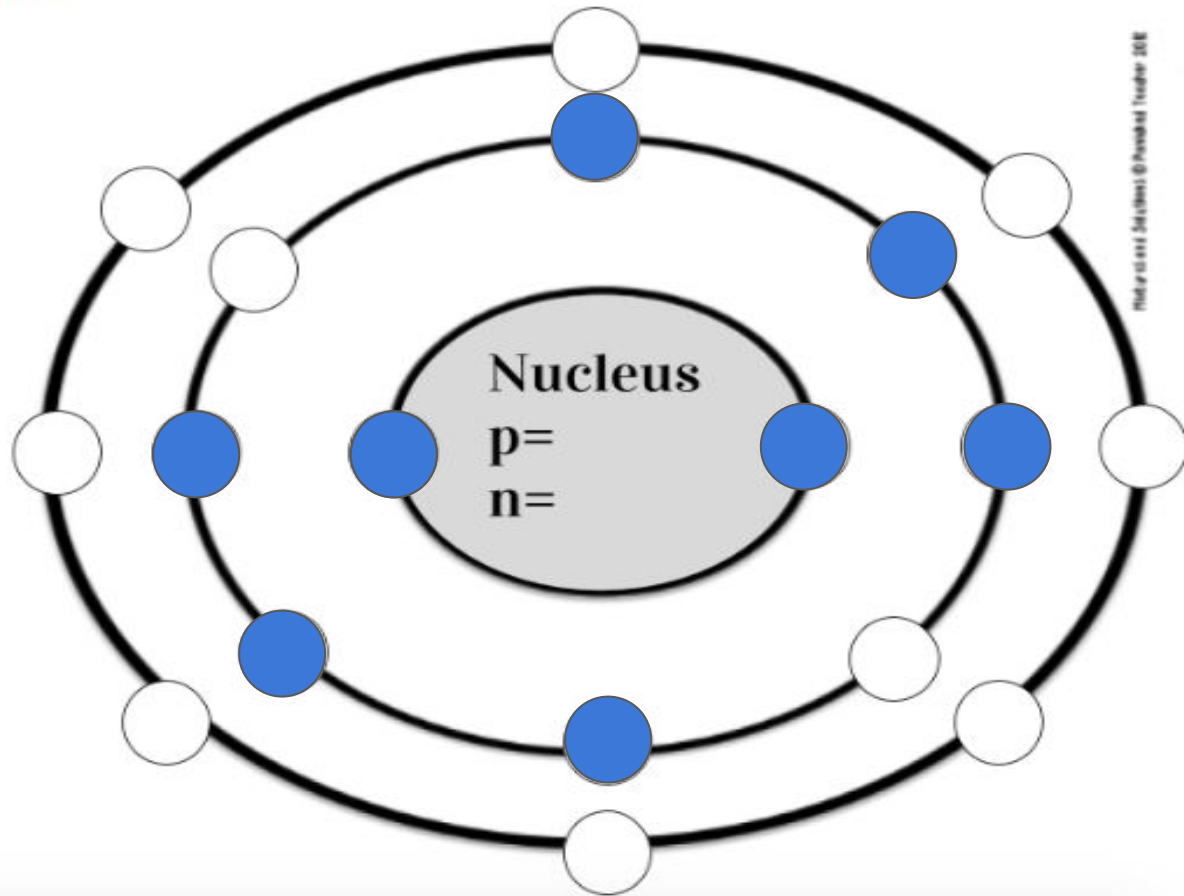


Boron
5
B
10.811

Atomic #:	
Atomic Mass:	
# Protons (+)	
# Electrons (-)	
# Neutrons (0)	

The Atom

Element: _____

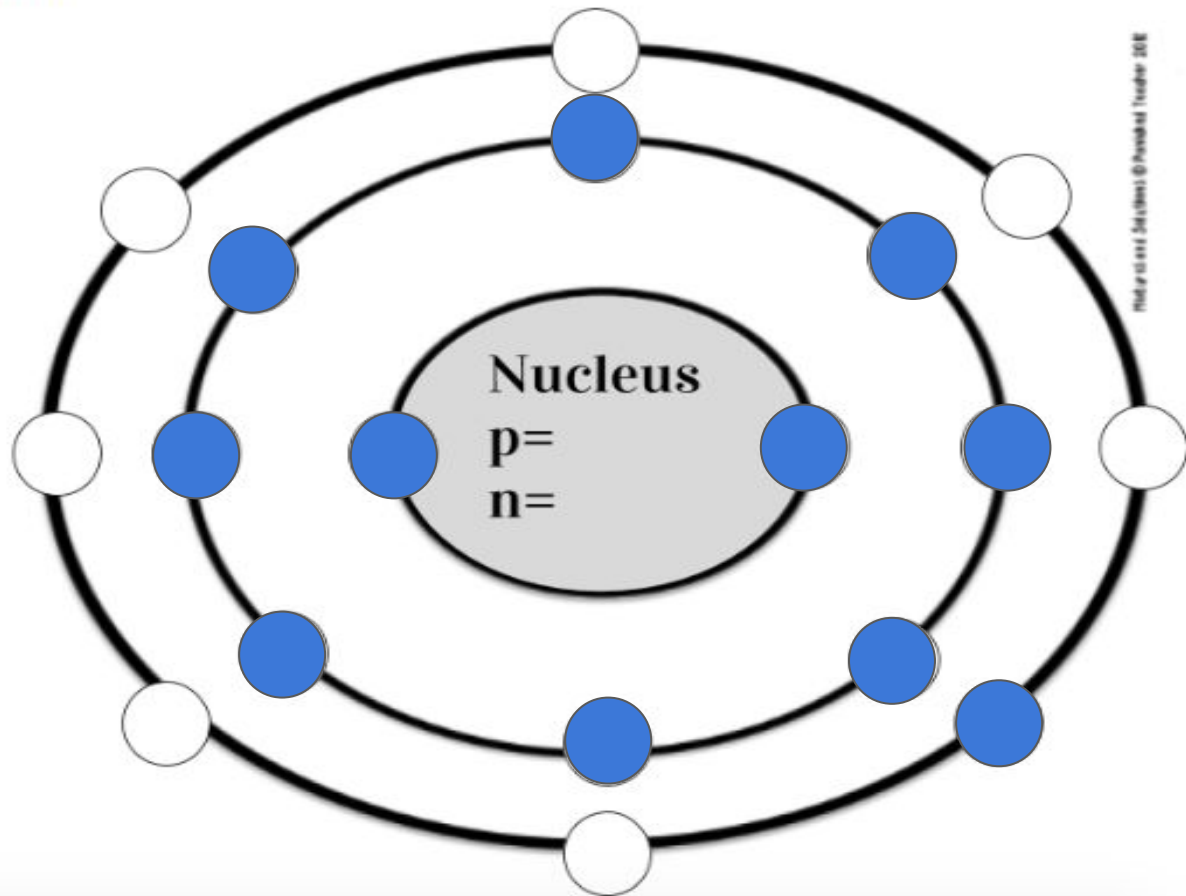


8
O
Oxygen
15.9994

Atomic #:	
Atomic Mass:	
# Protons (+)	
# Electrons (-)	
# Neutrons (0)	

The Atom

Element: _____



Sodium
11
Na
22.990

Atomic #:	
Atomic Mass:	
# Protons (+)	
# Electrons (-)	
# Neutrons (0)	